lens, I could detect nothing more. When small fragments of irregular form were placed under a more powerful magnifier, the black mica appeared smoky by a transmitted light, or green when in very thin plates, and most of the material seemed to be a green amorphous glass, having no effect on polarized light. The specific gravity I found to be 2.48. The silica I determined by an analysis to be 65.48 per cent. We might presume that the amount of silica should be greater than that obtained, but we must keep in mind that the biotite present contains only about 40 per cent. of it, and thus reduces the proportion; however, the quantity indicates that we must class this lava among the acidic ones. The conclusion at which I arrive is that the so-called "blue gravel" of California is a conglomerate of pebbles of various kinds cemented together by an acidic lava in which crystals of mica (biotite) and grains of gold are imbedded.

How the gold came into the lava is a question of some difficulty. Whether it was mingled with the pebbles before the lava ran over the bed, or whether the gold was ejected from the volcano, I am not able to decide. It would require observations on a variety of specimens to arrive at some plausible theory. The specimens I have seen had the gold suspended in the lava. The metal did not touch the pebbles; therefore, if the gold was present in the pebble bed prior to the ejection of the lava, this latter must have raised the metal from its bed, that is to say, a metal of s. g. 19.3 must have been raised by a semifluid mass having s. g. = 2.48!

Of course my observations are limited on these questions, but since copper was ejected by the ancient volcano on Lake Superior, may not gold have been similarly ejected in the case before us?

April 14.

The President, Dr. Ruschenberger, in the chair.

Twenty-two members present.

Prof. Leidy called attention to the "Bulletin of the United States Geological and Geographical Survey of the Territories, No. 2," presented this evening. It contains a "Review of the Vertebrata of the Cretaceous Period found west of the Mississippi River," by Prof. Cope. In this article he was quoted in such a way as not fairly to express his original meaning. Thus, on page 7 of the Bulletin, reference is made to the Proceedings of this Academy, 1856, p. 312, in which it is intimated that Thespesius occidentalis was referred to the Mammalia, and regarded, perhaps, as a Dinosaurian. In the Proceedings I have rather expressed the reverse, as I state of T. occidentalis, "among the collection of vertebrate remains, are two apparent caudal vertebræ and a first phalanx of some huge animal, which I suspect to be a

Dinosaurian, though they may have belonged to a mammalian." I may add that, on p. 8, Prof. Cope, quoting from the same Proceedings, p. 89, indicated that I had referred Ischyrotherium to a Sirenian. This is so, but Prof. Cope appears to have overlooked the more full account of the animal in the Trans. of the Am. Phil. Soc., 1859, p. 151, in which, though I still refer it with doubt to the mammalia sirenia, I state that the remains may have belonged to an aquatic reptile.

In view of the reptilian character of Ischyrotherium, Prof. C. has changed the name to Ischyrosaurus, but his reason for doing so appears to me not to be valid, as classical authorities at times have included reptiles in the word *therion*, and it has been considered admissible as applied to the extinct Cheirotherium.

April 21.

The President, Dr. Ruschenberger, in the chair.

Eighteen members present.

Note on the Enemies of Difflugia.—Prof. Leidy remarked that in the relationship of *Difflugia* and *Amœba* we would suppose that the former had been evolved from the latter, and that its stone house would protect it from enemies to which the *Amœba* would be most exposed. The *Difflugia* had many enemies. I have repeatedly observed an *Amœba* with a swallowed *Arcella*, but never with a *Difflugia*. Worms destroy many of the latter, and I have frequently observed them within the intestine of *Nais*, *Pristina*, *Chætogaster*, and *Ælosoma*. I was surprised to find that *Stentor polymorphus* was also fond of *Difflugia*, and I have frequently observed this animalcule containing them. On one occasion I accidentally fixed a *Stentor* by pressing down the cover of an animalcule cage on a *Difflugia*, which it had swallowed. The *Stentor* contracted, and suddenly elongated, and repeated these movements until it had split three-fourths the length of its body through, and had torn itself loose from the fastened *Difflugia*. Nor did the *Stentor* suffer from this laceration of its body, for in the course of several hours each half became separated as a distinct individual.

Remarks on a supposed Compound derived from Leather.—Prof. Leidy directed attention to a dark-red, compact, shining, resinous-looking mass, several inches in thickness, which, he said, was reputed to have been derived from leather in the great fire of Chicago. It now exhibits no evidence of organized structure, and its origin would not have been suspected from its appearance. On burning it still gives out the peculiar odor of burning leather. It was supposed to be a compound evolved from the leather, under the influence of high heat with absence of air.